

## SEQUENCE LISTING

<110> Climent-Johansson, Isabel  
Enerback, Sven

<120> PROTEIN COMPLEXES

<130> 13425-102US1

<140> US 10/500,941  
<141> 2004-07-08

<150> PCT/SE03/00139  
<151> 2003-01-28

<150> US 60/377,349  
<151> 2002-04-30

<150> SE 0200265-7  
<151> 2002-01-29

<160> 12

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 501  
<212> PRT  
<213> Homo sapiens

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Pro Tyr Leu Ser Glu Gln Asn Tyr Tyr Arg Ala Ala Gly Ser Tyr Gly  
20 25 30  
Gly Met Ala Ser Pro Met Gly Val Tyr Ser Gly His Pro Glu Gln Tyr  
35 40 45  
Ser Ala Gly Met Gly Arg Ser Tyr Ala Pro Tyr His His His Gln Pro  
50 55 60  
Ala Ala Pro Lys Asp Leu Val Lys Pro Pro Tyr Ser Tyr Ile Ala Leu  
65 70 75 80  
Ile Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys Ile Thr Leu Asn  
85 90 95  
Gly Ile Tyr Gln Phe Ile Met Asp Arg Phe Pro Phe Tyr Arg Glu Asn  
100 105 110  
Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu  
115 120 125  
Cys Phe Val Lys Val Pro Arg Asp Asp Lys Lys Pro Gly Lys Gly Ser  
130 135 140  
Tyr Trp Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe Glu Asn Gly Ser  
145 150 155 160  
Phe Leu Arg Arg Arg Arg Phe Lys Lys Lys Asp Val Ser Lys Glu  
165 170 175  
Lys Glu Glu Arg Ala His Leu Lys Glu Pro Pro Pro Ala Ala Ser Lys  
180 185 190  
Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro Lys Glu Ala Glu

195	200	205
Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro Ala Leu Pro Val		
210	215	220
Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala Leu Gln Gly Ser		
225	230	235
Pro Arg Ser Ala Ala Ser Thr Pro Ala Gly Ser Pro Asp Gly Ser Leu		
245	250	255
Pro Glu His His Ala Ala Ala Pro Asn Gly Leu Pro Gly Phe Ser Val		
260	265	270
Glu Asn Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Glu Leu Ser		
275	280	285
Pro Gly Ala Gly Arg Ala Gly Leu Val Val Pro Pro Leu Ala Leu Pro		
290	295	300
Tyr Ala Ala Ala Pro Pro Ala Ala Tyr Gly Gln Pro Cys Ala Gln Gly		
305	310	315
Leu Glu Ala Gly Ala Ala Gly Gly Tyr Gln Cys Ser Met Arg Ala Met		
325	330	335
Ser Leu Tyr Thr Gly Ala Glu Arg Pro Ala His Met Cys Val Pro Pro		
340	345	350
Ala Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly Pro Thr Ser Pro		
355	360	365
Leu Ser Ala Leu Asn Leu Ala Ala Gly Gln Glu Gly Ala Leu Ala Ala		
370	375	380
Thr Gly His His His Gln His His Gly His His His His Pro Gln Ala Pro		
385	390	395
Pro Pro Pro Pro Ala Pro Gln Pro Gln Pro Thr Pro Gln Pro Gly Ala		
405	410	415
Ala Ala Ala Gln Ala Ala Ser Trp Tyr Leu Asn His Ser Gly Asp Leu		
420	425	430
Asn His Leu Pro Gly His Thr Phe Ala Ala Gln Gln Gln Thr Phe Pro		
435	440	445
Asn Val Arg Glu Met Phe Asn Ser His Arg Leu Gly Ile Glu Asn Ser		
450	455	460
Thr Leu Gly Glu Ser Gln Val Ser Gly Asn Ala Ser Cys Gln Leu Pro		
465	470	475
Tyr Arg Ser Thr Pro Pro Leu Tyr Arg His Ala Ala Pro Tyr Ser Tyr		
485	490	495
Asp Cys Thr Lys Tyr		
500		

<210> 2  
<211> 514  
<212> PRT  
<213> Homo sapiens

<400> 2		
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Asp Met Asp Asn Val Gln Ser Lys Arg Arg Arg Tyr Met Glu Glu Glu		
20	25	30
Tyr Glu Ala Glu Phe Gln Val Lys Ile Thr Ala Lys Gly Asp Ile Asn		
35	40	45
Gln Lys Leu Gln Lys Val Ile Gln Trp Leu Leu Glu Glu Lys Leu Cys		
50	55	60
Ala Leu Gln Cys Ala Val Phe Asp Lys Thr Leu Ala Glu Leu Lys Thr		
65	70	75
Arg Val Glu Lys Ile Glu Cys Asn Lys Arg His Lys Thr Val Leu Thr		

85	90	95
Glu Leu Gln Ala Lys Ile Ala Arg	Leu Thr Lys Arg Phe	Glu Ala Ala
100	105	110
Lys Glu Asp Leu Lys Lys Arg His	Glu His Pro Pro Asn Pro Pro Val	
115	120	125
Ser Pro Gly Lys Thr Val Asn Asp Val Asn Ser	Asn Asn Asn Met Ser	
130	135	140
Tyr Arg Asn Ala Gly Thr Val Arg Gln Met	Leu Glu Ser Lys Arg Asn	
145	150	155
Val Ser Glu Ser Ala Pro Pro Ser Phe	Gln Thr Pro Val Asn Thr Val	
165	170	175
Ser Ser Thr Asn Leu Val Thr Pro Pro Ala Val Val	Ser Ser Gln Pro	
180	185	190
Lys Leu Gln Thr Pro Val Thr Ser Gly Ser	Leu Thr Ala Thr Ser Val	
195	200	205
Leu Pro Ala Pro Asn Thr Ala Thr Val Val Ala	Thr Thr Gln Val Pro	
210	215	220
Ser Gly Asn Pro Gln Pro Thr Ile Ser Leu Gln Pro	Leu Pro Val Ile	
225	230	235
Leu His Val Pro Val Ala Val Ser Ser Gln Pro	Gln Leu Leu Gln Ser	
245	250	255
His Pro Gly Thr Leu Val Thr Asn Gln Pro Ser	Gly Asn Val Glu Phe	
260	265	270
Ile Ser Val Gln Ser Pro Pro Thr Val Ser Gly	Leu Thr Lys Asn Pro	
275	280	285
Val Ser Leu Pro Ser Leu Pro Asn Pro Thr Lys	Pro Asn Asn Val Pro	
290	295	300
Ser Val Pro Ser Pro Ser Ile Gln Arg Asn Pro	Thr Ala Ser Ala Ala	
305	310	315
Pro Leu Gly Thr Thr Leu Ala Val Gln Ala Val	Pro Thr Ala His Ser	
325	330	335
Ile Val Gln Ala Thr Arg Thr Ser Leu Pro Thr	Val Gly Pro Ser Gly	
340	345	350
Leu Tyr Ser Pro Ser Thr Asn Arg Gly Pro	Ile Gln Met Lys Ile Pro	
355	360	365
Ile Ser Ala Phe Ser Thr Ser Ser Ala Ala	Glu Gln Asn Ser Asn Thr	
370	375	380
Thr Pro Arg Ile Glu Asn Gln Thr Asn Lys	Thr Ile Asp Ala Ser Val	
385	390	395
Ser Lys Lys Ala Ala Asp Ser Thr Ser Gln Cys	Gly Lys Ala Thr Gly	
405	410	415
Ser Asp Ser Ser Gly Val Ile Asp Leu Thr Met	Asp Asp Glu Glu Ser	
420	425	430
Gly Ala Ser Gln Asp Pro Lys Lys Leu Asn His	Thr Pro Val Ser Thr	
435	440	445
Met Ser Ser Ser Gln Pro Val Ser Arg Pro	Leu Gln Pro Ile Gln Pro	
450	455	460
Ala Pro Pro Leu Gln Pro Ser Gly Val Pro	Thr Ser Gly Pro Ser Gln	
465	470	475
Thr Thr Ile His Leu Leu Pro Thr Ala Pro	Thr Thr Val Asn Val Thr	
485	490	495
His Arg Pro Val Thr Gln Val Thr Thr Arg	Leu Pro Val Pro Arg Ala	
500	505	510
Pro Ala		

<211> 524  
<212> PRT  
<213> Homo sapiens

<400> 3

Met	His	Val	Glu	Thr	Gly	Pro	Asn	Gly	Glu	Gln	Ile	Arg	Lys	His	Ala	
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Gly	Gln	Lys	Arg	Thr	Tyr	Lys	Ala	Ile	Ser	Glu	Ser	Tyr	Ala	Phe	Leu	
			20					25					30			
Pro	Arg	Glu	Ala	Val	Thr	Arg	Phe	Leu	Met	Ser	Cys	Ser	Glu	Cys	Gln	
	35					40					45					
Lys	Arg	Met	His	Leu	Asn	Pro	Asp	Gly	Thr	Asp	His	Lys	Asp	Asn	Gly	
	50				55					60						
Lys	Pro	Pro	Thr	Leu	Val	Thr	Ser	Met	Ile	Asp	Tyr	Asn	Met	Pro	Ile	
65					70				75				80			
Thr	Met	Ala	Tyr	Met	Lys	His	Met	Lys	Leu	Gln	Leu	Leu	Asn	Ser	Gln	
					85				90				95			
Gln	Asp	Glu	Asp	Glu	Ser	Ser	Ile	Glu	Ser	Asp	Glu	Phe	Asp	Met	Ser	
	100					105					110					
Asp	Ser	Thr	Arg	Met	Ser	Ala	Val	Asn	Ser	Asp	Leu	Ser	Ser	Asn	Leu	
	115					120					125					
Glu	Glu	Arg	Met	Gln	Ser	Pro	Gln	Asn	Leu	His	Gly	Gln	Gln	Asp	Asp	
130					135					140						
Asp	Ser	Ala	Ala	Glu	Ser	Phe	Asn	Gly	Asn	Glu	Thr	Leu	Gly	His	Ser	
145					150				155				160			
Ser	Ile	Ala	Ser	Gly	Gly	Thr	His	Ser	Arg	Glu	Met	Gly	Asp	Ser	Asn	
					165				170				175			
Ser	Asp	Gly	Lys	Thr	Gly	Leu	Glu	Gln	Asp	Glu	Gln	Pro	Leu	Asn	Leu	
					180			185				190				
Ser	Asp	Ser	Pro	Leu	Ser	Ala	Gln	Leu	Thr	Ser	Glu	Tyr	Arg	Ile	Asp	
					195			200				205				
Asp	His	Asn	Ser	Asn	Gly	Lys	Asn	Lys	Tyr	Lys	Asn	Leu	Leu	Ile	Ser	
					210			215				220				
Asp	Leu	Lys	Met	Glu	Arg	Glu	Ala	Arg	Glu	Asn	Gly	Ser	Lys	Ser	Pro	
225					230				235				240			
Ala	His	Ser	Tyr	Ser	Ser	Tyr	Asp	Ser	Gly	Lys	Asn	Glu	Ser	Val	Asp	
					245				250				255			
Arg	Gly	Ala	Glu	Asp	Leu	Ser	Leu	Asn	Arg	Gly	Asp	Glu	Asp			
					260			265				270				
Asp	His	Glu	Asp	His	Asp	Asp	Ser	Glu	Lys	Val	Asn	Glu	Thr	Asp	Gly	
					275			280				285				
Val	Glu	Ala	Glu	Arg	Leu	Lys	Ala	Phe	Asn	Met	Phe	Val	Arg	Leu	Phe	
					290			295				300				
Val	Asp	Glu	Asn	Leu	Asp	Arg	Met	Val	Pro	Ile	Ser	Lys	Gln	Pro	Lys	
305					310				315				320			
Glu	Lys	Ile	Gln	Ala	Ile	Ile	Asp	Ser	Cys	Arg	Arg	Gln	Phe	Pro	Glu	
					325				330				335			
Tyr	Gln	Glu	Arg	Ala	Arg	Lys	Arg	Ile	Arg	Thr	Tyr	Leu	Lys	Ser	Cys	
					340			345				350				
Arg	Arg	Met	Lys	Arg	Arg	Ser	Gly	Phe	Glu	Met	Ser	Arg	Pro	Ile	Pro	Ser
					355			360				365				
His	Leu	Thr	Ser	Ala	Val	Ala	Glu	Ser	Ile	Leu	Ala	Ser	Ala	Cys	Glu	
					370			375				380				
Ser	Glu	Ser	Arg	Asn	Ala	Ala	Lys	Arg	Met	Arg	Leu	Glu	Arg	Gln	Gln	
385					390				395				400			
Asp	Glu	Ser	Ala	Pro	Ala	Asp	Lys	Gln	Cys	Lys	Pro	Glu	Ala	Thr	Gln	
					405				410				415			

Ala Thr Tyr Ser Thr Ser Ala Val Pro Gly Ser Gln Asp Val Leu Tyr  
     420                  425                  430  
 Ile Asn Gly Asn Gly Thr Tyr Ser Tyr His Ser Tyr Arg Gly Leu Gly  
     435                  440                  445  
 Gly Gly Leu Leu Asn Leu Asn Asp Ala Ser Ser Ser Gly Pro Thr Asp  
     450                  455                  460  
 Leu Ser Met Lys Arg Gln Leu Ala Thr Ser Ser Gly Ser Ser Ser Ser  
     465                  470                  475                  480  
 Ser Asn Ser Arg Pro Gln Leu Ser Pro Thr Glu Ile Asn Ala Val Arg  
     485                  490                  495  
 Gln Leu Val Ala Gly Tyr Arg Glu Ser Ala Ala Phe Leu Leu Arg Ser  
     500                  505                  510  
 Ala Asp Glu Leu Glu Asn Leu Ile Leu Gln Gln Asn  
     515                  520

<210> 4  
 <211> 586  
 <212> PRT  
 <213> Homo sapiens

<400> 4

Met Asn Pro Thr Asn Thr Val Phe Asp Ala Lys Arg Leu Ile Gly Arg  
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 Arg Phe Asp Asp Ala Val Val Gln Ser Asp Met Lys His Trp Pro Phe  
     20                  25                  30  
 Met Val Val Asn Asp Ala Gly Arg Pro Lys Val Gln Val Glu Tyr Lys  
     35                  40                  45  
 Gly Glu Thr Lys Ser Phe Tyr Pro Glu Glu Val Ser Ser Met Val Leu  
     50                  55                  60  
 Thr Lys Met Lys Glu Ile Ala Glu Ala Tyr Leu Gly Lys Thr Val Thr  
     65                  70                  75                  80  
 Asn Ala Val Val Thr Val Pro Ala Tyr Phe Asn Asp Ser Gln Arg Gln  
     85                  90                  95  
 Ala Thr Lys Asp Ala Gly Thr Ile Ala Gly Leu Asn Val Leu Arg Ile  
     100                 105                 110  
 Ile Asn Glu Pro Thr Ala Ala Ile Ala Tyr Gly Leu Asp Lys Lys  
     115                 120                 125  
 Val Gly Ala Glu Arg Asn Val Leu Ile Phe Asp Leu Gly Gly Gly Thr  
     130                 135                 140  
 Phe Asp Val Ser Ile Leu Thr Ile Glu Asp Gly Ile Phe Glu Val Lys  
     145                 150                 155                 160  
 Ser Thr Ala Gly Asp Thr His Leu Gly Gly Glu Asp Phe Asp Asn Arg  
     165                 170                 175  
 Met Val Asn His Phe Ile Ala Glu Phe Lys Arg Lys His Lys Lys Asp  
     180                 185                 190  
 Ile Ser Glu Asn Lys Arg Ala Val Arg Arg Leu Arg Thr Ala Cys Glu  
     195                 200                 205  
 Arg Ala Lys Arg Thr Leu Ser Ser Ser Thr Gln Ala Ser Ile Glu Ile  
     210                 215                 220  
 Asp Ser Leu Tyr Glu Gly Ile Asp Phe Tyr Thr Ser Ile Thr Arg Ala  
     225                 230                 235                 240  
 Arg Phe Glu Glu Leu Asn Ala Asp Leu Phe Arg Gly Thr Leu Asp Pro  
     245                 250                 255  
 Val Glu Lys Ala Leu Arg Asp Ala Lys Leu Asp Lys Ser Gln Ile His  
     260                 265                 270  
 Asp Ile Val Val Gly Gly Ser Thr Arg Ile Pro Lys Ile Gln Lys  
     275                 280                 285

Leu Leu Gln Asp Phe Phe Asn Gly Lys Glu Leu Asn Lys Ser Ile Asn  
 290 295 300  
 Pro Asp Glu Ala Val Ala Tyr Gly Ala Ala Val Gln Ala Ala Ile Leu  
 305 310 315 320  
 Ser Gly Asp Lys Ser Glu Asn Val Gln Asp Leu Leu Leu Asp Val  
 325 330 335  
 Thr Pro Leu Ser Leu Gly Ile Glu Thr Ala Gly Gly Val Met Thr Val  
 340 345 350  
 Leu Ile Lys Arg Asn Thr Thr Ile Pro Thr Lys Gln Thr Gln Thr Phe  
 355 360 365  
 Thr Thr Tyr Ser Asp Asn Gln Pro Gly Val Leu Ile Gln Val Tyr Glu  
 370 375 380  
 Gly Glu Arg Ala Met Thr Lys Asp Asn Asn Leu Leu Gly Lys Phe Glu  
 385 390 395 400  
 Leu Thr Gly Ile Pro Pro Ala Pro Arg Gly Val Pro Gln Ile Glu Val  
 405 410 415  
 Thr Phe Asp Ile Asp Ala Asn Gly Ile Leu Asn Val Ser Ala Val Asp  
 420 425 430  
 Lys Ser Thr Gly Lys Glu Asn Lys Ile Thr Ile Thr Asn Asp Lys Gly  
 435 440 445  
 Arg Leu Ser Lys Glu Asp Ile Glu Arg Met Val Gln Glu Ala Glu Lys  
 450 455 460  
 Tyr Lys Ala Glu Asp Glu Lys Gln Arg Asp Lys Val Ser Ser Lys Asn  
 465 470 475 480  
 Ser Leu Glu Ser Tyr Ala Phe Asn Met Lys Ala Thr Val Glu Asp Glu  
 485 490 495  
 Lys Leu Gln Gly Lys Ile Asn Asp Glu Asp Lys Gln Lys Ile Leu Asp  
 500 505 510  
 Lys Cys Asn Glu Ile Ile Asn Trp Leu Asp Lys Asn Gln Thr Ala Glu  
 515 520 525  
 Lys Glu Glu Phe Glu His Gln Gln Lys Glu Leu Glu Lys Val Cys Asn  
 530 535 540  
 Pro Ile Ile Thr Lys Leu Tyr Gln Ser Ala Gly Gly Met Pro Gly Gly  
 545 550 555 560  
 Met Pro Gly Gly Phe Pro Gly Gly Ala Pro Pro Ser Gly Gly Ala  
 565 570 575  
 Ser Ser Gly Pro Thr Ile Glu Glu Val Asp  
 580 585

<210> 5  
 <211> 449  
 <212> PRT  
 <213> Homo sapiens

<400> 5  
 Met Met Leu Ser Thr Glu Gly Arg Glu Gly Phe Val Val Lys Val Arg  
 1 5 10 15  
 Gly Leu Pro Trp Ser Cys Ser Ala Asp Glu Val Met Arg Phe Phe Ser  
 20 25 30  
 Asp Cys Lys Ile Gln Asn Gly Thr Ser Gly Ile Arg Phe Ile Tyr Thr  
 35 40 45  
 Arg Glu Gly Arg Pro Ser Gly Glu Ala Phe Val Glu Leu Glu Ser Glu  
 50 55 60  
 Glu Glu Val Lys Leu Ala Leu Lys Lys Asp Arg Glu Thr Met Gly His  
 65 70 75 80  
 Arg Tyr Val Glu Val Phe Lys Ser Asn Ser Val Glu Met Asp Trp Val  
 85 90 95

Leu Lys His Thr Gly Pro Asn Ser Pro Asp Thr Ala Asn Asp Gly Phe  
     100                       105                       110  
 Val Arg Leu Arg Gly Leu Pro Phe Gly Cys Ser Lys Glu Glu Ile Val  
     115                       120                       125  
 Gln Phe Phe Ser Gly Leu Glu Ile Val Pro Asn Gly Met Thr Leu Pro  
     130                       135                       140  
 Val Asp Phe Gln Gly Arg Ser Thr Gly Glu Ala Phe Val Gln Phe Ala  
     145                       150                       155                       160  
 Ser Gln Glu Ile Ala Glu Lys Ala Leu Lys Lys His Lys Glu Arg Ile  
     165                       170                       175  
 Gly His Arg Tyr Ile Glu Ile Phe Lys Ser Ser Arg Ala Glu Val Arg  
     180                       185                       190  
 Thr His Tyr Asp Pro Pro Arg Lys Leu Met Ala Met Gln Arg Pro Gly  
     195                       200                       205  
 Pro Tyr Asp Arg Pro Gly Ala Gly Arg Gly Tyr Asn Ser Ile Gly Arg  
     210                       215                       220  
 Gly Ala Gly Phe Glu Arg Met Arg Arg Gly Ala Tyr Gly Gly Gly Tyr  
     225                       230                       235                       240  
 Gly Gly Tyr Asp Asp Tyr Gly Gly Tyr Asn Asp Gly Tyr Gly Phe Gly  
     245                       250                       255  
 Ser Asp Arg Phe Gly Arg Asp Leu Asn Tyr Cys Phe Ser Gly Met Ser  
     260                       265                       270  
 Asp His Arg Tyr Gly Asp Gly Ser Ser Phe Gln Ser Thr Thr Gly  
     275                       280                       285  
 His Cys Val His Met Arg Gly Leu Pro Tyr Arg Ala Thr Glu Asn Asp  
     290                       295                       300  
 Ile Tyr Asn Phe Phe Ser Pro Leu Asn Pro Met Arg Val His Ile Glu  
     305                       310                       315                       320  
 Ile Gly Pro Asp Gly Arg Val Thr Gly Glu Ala Asp Val Glu Phe Ala  
     325                       330                       335  
 Thr His Glu Asp Ala Val Ala Ala Met Ala Lys Asp Lys Ala Asn Met  
     340                       345                       350  
 Gln His Arg Tyr Val Glu Leu Phe Leu Asn Ser Thr Ala Gly Thr Ser  
     355                       360                       365  
 Gly Gly Ala Tyr Asp His Ser Tyr Val Glu Leu Phe Leu Asn Ser Thr  
     370                       375                       380  
 Ala Gly Ala Ser Gly Gly Ala Tyr Gly Ser Gln Met Met Gly Gly Met  
     385                       390                       395                       400  
 Gly Leu Ser Asn Gln Ser Ser Tyr Gly Gly Pro Ala Ser Gln Gln Leu  
     405                       410                       415  
 Ser Gly Gly Tyr Gly Gly Gly Tyr Gly Gly Gln Ser Ser Met Ser Gly  
     420                       425                       430  
 Tyr Asp Gln Val Leu Gln Glu Asn Ser Ser Asp Tyr Gln Ser Asn Leu  
     435                       440                       445  
 Ala

<210> 6  
 <211> 1675  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
 Met Ala Gln Ile Leu Pro Ile Arg Phe Gln Glu His Leu Gln Leu Gln  
     1                       5                       10                       15  
 Asn Leu Gly Ile Asn Pro Ala Asn Ile Gly Phe Ser Thr Leu Thr Met  
     20                       25                       30

Glu Ser Asp Lys Phe Ile Cys Ile Arg Glu Lys Val Gly Glu Gln Ala  
   35                          40                          45  
 Gln Val Val Ile Ile Asp Met Asn Asp Pro Ser Asn Pro Ile Arg Arg  
   50                          55                          60  
 Pro Ile Ser Ala Asp Ser Ala Ile Met Asn Pro Ala Ser Lys Val Ile  
   65                          70                          75                          80  
 Ala Leu Lys Ala Gly Lys Thr Leu Gln Ile Phe Asn Ile Glu Met Lys  
   85                          90                          95  
 Ser Lys Met Lys Ala His Thr Met Thr Asp Asp Val Thr Phe Trp Lys  
  100                          105                          110  
 Trp Ile Ser Leu Asn Thr Val Ala Leu Val Thr Asp Asn Ala Val Tyr  
  115                          120                          125  
 His Trp Ser Met Glu Gly Glu Ser Gln Pro Val Lys Met Phe Asp Arg  
  130                          135                          140  
 His Ser Ser Leu Ala Gly Cys Gln Ile Ile Asn Tyr Arg Thr Asp Ala  
  145                          150                          155                          160  
 Lys Gln Lys Trp Leu Leu Leu Thr Gly Ile Ser Ala Gln Gln Asn Arg  
  165                          170                          175  
 Val Val Gly Ala Met Gln Leu Tyr Ser Val Asp Arg Lys Val Ser Gln  
  180                          185                          190  
 Pro Ile Glu Gly His Ala Ala Ser Phe Ala Gln Phe Lys Met Glu Gly  
  195                          200                          205  
 Asn Ala Glu Glu Ser Thr Leu Phe Cys Phe Ala Val Arg Gly Gln Ala  
  210                          215                          220  
 Gly Gly Lys Leu His Ile Ile Glu Val Gly Thr Pro Pro Thr Gly Asn  
  225                          230                          235                          240  
 Gln Pro Phe Pro Lys Lys Ala Val Asp Val Phe Phe Pro Pro Glu Ala  
  245                          250                          255  
 Gln Asn Asp Phe Pro Val Ala Met Gln Ile Ser Glu Lys His Asp Val  
  260                          265                          270  
 Val Phe Leu Ile Thr Lys Tyr Gly Tyr Ile His Leu Tyr Asp Leu Glu  
  275                          280                          285  
 Thr Gly Thr Cys Ile Tyr Met Asn Arg Ile Ser Gly Glu Thr Ile Phe  
  290                          295                          300  
 Val Thr Ala Pro His Glu Ala Thr Ala Gly Ile Ile Gly Val Asn Arg  
  305                          310                          315                          320  
 Lys Gly Gln Val Leu Ser Val Cys Val Glu Glu Glu Asn Ile Ile Pro  
  325                          330                          335  
 Tyr Ile Thr Asn Val Leu Gln Asn Pro Asp Leu Ala Leu Arg Met Ala  
  340                          345                          350  
 Val Arg Asn Asn Leu Ala Gly Ala Glu Glu Leu Phe Ala Arg Lys Phe  
  355                          360                          365  
 Asn Ala Leu Phe Ala Gln Gly Asn Tyr Ser Glu Ala Ala Lys Val Ala  
  370                          375                          380  
 Ala Asn Ala Pro Lys Gly Ile Leu Arg Thr Pro Asp Thr Ile Arg Arg  
  385                          390                          395                          400  
 Phe Gln Ser Val Pro Ala Gln Pro Gly Gln Thr Ser Pro Leu Leu Gln  
  405                          410                          415  
 Tyr Phe Gly Ile Leu Leu Asp Gln Gly Gln Leu Asn Lys Tyr Glu Ser  
  420                          425                          430  
 Leu Glu Leu Cys Arg Pro Val Leu Gln Gln Gly Arg Lys Gln Leu Leu  
  435                          440                          445  
 Glu Lys Trp Leu Lys Glu Asp Lys Leu Glu Cys Ser Glu Glu Leu Gly  
  450                          455                          460  
 Asp Leu Val Lys Ser Val Asp Pro Thr Leu Ala Leu Ser Val Tyr Leu  
  465                          470                          475                          480  
 Arg Ala Asn Val Pro Asn Val Ile Gln Cys Phe Ala Glu Thr Gly

485	490	495
Gln Val Gln Lys Ile Val Leu Tyr Ala Lys Lys Val Gly Tyr Thr Pro		
500	505	510
Asp Trp Ile Phe Leu Leu Arg Asn Val Met Arg Ile Ser Pro Asp Gln		
515	520	525
Gly Gln Gln Phe Ala Gln Met Leu Val Gln Asp Glu Glu Pro Leu Ala		
530	535	540
Asp Ile Thr Gln Ile Val Asp Val Phe Met Glu Tyr Asn Leu Ile Gln		
545	550	555
Gln Cys Thr Ala Phe Leu Leu Asp Ala Leu Lys Asn Asn Arg Pro Ser		
565	570	575
Glu Gly Pro Leu Gln Thr Arg Leu Leu Glu Met Asn Leu Met His Ala		
580	585	590
Pro Gln Val Ala Asp Ala Ile Leu Gly Asn Gln Met Phe Thr His Tyr		
595	600	605
Asp Arg Ala His Ile Ala Gln Leu Cys Glu Lys Ala Gly Leu Leu Gln		
610	615	620
Arg Ala Leu Glu His Phe Thr Asp Leu Tyr Asp Ile Lys Arg Ala Val		
625	630	635
Val His Thr His Leu Leu Asn Pro Glu Trp Leu Val Asn Tyr Phe Gly		
645	650	655
Ser Leu Ser Val Glu Asp Ser Leu Glu Cys Leu Arg Ala Met Leu Ser		
660	665	670
Ala Asn Ile Arg Gln Asn Leu Gln Ile Cys Val Gln Val Ala Ser Lys		
675	680	685
Tyr His Glu Gln Leu Ser Thr Gln Ser Leu Ile Glu Leu Phe Glu Ser		
690	695	700
Phe Lys Ser Phe Glu Gly Leu Phe Tyr Phe Leu Gly Ser Ile Val Asn		
705	710	715
Phe Ser Gln Asp Pro Asp Val His Phe Lys Tyr Ile Gln Ala Ala Cys		
725	730	735
Lys Thr Gly Gln Ile Lys Glu Val Glu Arg Ile Cys Arg Glu Ser Asn		
740	745	750
Cys Tyr Asp Pro Glu Arg Val Lys Asn Phe Leu Lys Glu Ala Lys Leu		
755	760	765
Thr Asp Gln Leu Pro Leu Ile Ile Val Cys Asp Arg Phe Asp Phe Val		
770	775	780
His Asp Leu Val Leu Tyr Leu Tyr Arg Asn Asn Leu Gln Lys Tyr Ile		
785	790	795
Glu Ile Tyr Val Gln Lys Val Asn Pro Ser Arg Leu Pro Val Val Ile		
805	810	815
Gly Gly Leu Leu Asp Val Asp Cys Ser Glu Asp Val Ile Lys Asn Leu		
820	825	830
Ile Leu Val Val Arg Gly Gln Phe Ser Thr Asp Glu Leu Val Ala Glu		
835	840	845
Val Glu Lys Arg Asn Arg Leu Lys Leu Leu Leu Pro Trp Leu Glu Ala		
850	855	860
Arg Ile His Glu Gly Cys Glu Glu Pro Ala Thr His Asn Ala Leu Ala		
865	870	875
Lys Ile Tyr Ile Asp Ser Asn Asn Pro Glu Arg Phe Leu Arg Glu		
885	890	895
Asn Pro Tyr Tyr Asp Ser Arg Val Val Gly Lys Tyr Cys Glu Lys Arg		
900	905	910
Asp Pro His Leu Ala Cys Val Ala Tyr Glu Arg Gly Gln Cys Asp Leu		
915	920	925
Glu Leu Ile Asn Val Cys Asn Glu Asn Ser Leu Phe Lys Ser Leu Ser		
930	935	940

Arg Tyr Leu Val Arg Arg Lys Asp Pro Glu Leu Trp Gly Ser Val Leu  
 945 950 955 960  
 Leu Glu Ser Asn Pro Tyr Arg Arg Pro Leu Ile Asp Gln Val Val Gln  
 965 970 975  
 Thr Ala Leu Ser Glu Thr Gln Asp Pro Glu Glu Val Ser Val Thr Val  
 980 985 990  
 Lys Ala Phe Met Thr Ala Asp Leu Pro Asn Glu Leu Ile Glu Leu Leu  
 995 1000 1005  
 Glu Lys Ile Val Leu Asp Asn Ser Val Phe Ser Glu His Arg Asn Leu  
 1010 1015 1020  
 Gln Asn Leu Leu Ile Leu Thr Ala Ile Lys Ala Asp Arg Thr Arg Val  
 1025 1030 1035 1040  
 Met Glu Tyr Ile Asn Arg Leu Asp Asn Tyr Asp Ala Pro Asp Ile Ala  
 1045 1050 1055  
 Asn Ile Ala Ile Ser Asn Glu Leu Phe Glu Glu Ala Phe Ala Ile Phe  
 1060 1065 1070  
 Arg Lys Phe Asp Val Asn Thr Ser Ala Val Gln Val Leu Ile Glu His  
 1075 1080 1085  
 Ile Gly Asn Leu Asp Arg Ala Tyr Glu Phe Ala Glu Arg Cys Asn Glu  
 1090 1095 1100  
 Pro Ala Val Trp Ser Gln Leu Ala Lys Ala Gln Leu Gln Lys Gly Met  
 1105 1110 1115 1120  
 Val Lys Glu Ala Ile Asp Ser Tyr Ile Lys Ala Asp Asp Pro Ser Ser  
 1125 1130 1135  
 Tyr Met Glu Val Val Gln Ala Ala Asn Thr Ser Gly Asn Trp Glu Glu  
 1140 1145 1150  
 Leu Val Lys Tyr Leu Gln Met Ala Arg Lys Lys Ala Arg Glu Ser Tyr  
 1155 1160 1165  
 Val Glu Thr Glu Leu Ile Phe Ala Leu Ala Lys Thr Asn Arg Leu Ala  
 1170 1175 1180  
 Glu Leu Glu Glu Phe Ile Asn Gly Pro Asn Asn Ala His Ile Gln Gln  
 1185 1190 1195 1200  
 Val Gly Asp Arg Cys Tyr Asp Glu Lys Met Tyr Asp Ala Ala Lys Leu  
 1205 1210 1215  
 Leu Tyr Asn Asn Val Ser Asn Phe Gly Arg Leu Ala Ser Thr Leu Val  
 1220 1225 1230  
 His Leu Gly Glu Tyr Gln Ala Ala Val Asp Gly Ala Arg Lys Ala Asn  
 1235 1240 1245  
 Ser Thr Arg Thr Trp Lys Glu Val Cys Phe Ala Cys Val Asp Gly Lys  
 1250 1255 1260  
 Glu Phe Arg Leu Ala Gln Met Cys Gly Leu His Ile Val Val His Ala  
 1265 1270 1275 1280  
 Asp Glu Leu Glu Leu Ile Asn Tyr Tyr Gln Asp Arg Gly Tyr Phe  
 1285 1290 1295  
 Glu Glu Leu Ile Thr Met Leu Glu Ala Ala Leu Gly Leu Glu Arg Ala  
 1300 1305 1310  
 His Met Gly Met Phe Thr Glu Leu Ala Ile Leu Tyr Ser Lys Phe Lys  
 1315 1320 1325  
 Pro Gln Lys Met Arg Glu His Leu Glu Leu Phe Trp Ser Arg Val Asn  
 1330 1335 1340  
 Ile Pro Lys Val Leu Arg Ala Ala Glu Gln Ala His Leu Trp Ala Glu  
 1345 1350 1355 1360  
 Leu Val Phe Leu Tyr Asp Lys Tyr Glu Glu Tyr Asp Asn Ala Ile Ile  
 1365 1370 1375  
 Thr Met Met Asn His Pro Thr Asp Ala Trp Lys Glu Gly Gln Phe Lys  
 1380 1385 1390  
 Asp Ile Ile Thr Lys Val Ala Asn Val Glu Leu Tyr Tyr Arg Ala Ile

1395	1400	1405
Gln Phe Tyr Leu Glu Phe Lys Pro Leu Leu Leu Asn Asp Leu Leu Met		
1410	1415	1420
Val Leu Ser Pro Arg Leu Asp His Thr Arg Ala Val Asn Tyr Phe Ser		
1425	1430	1435
Lys Val Lys Gln Leu Pro Leu Val Lys Pro Tyr Leu Arg Ser Val Gln		
1445	1450	1455
Asn His Asn Asn Lys Ser Val Asn Glu Ser Leu Asn Asn Leu Phe Ile		
1460	1465	1470
Thr Glu Glu Asp Tyr Gln Ala Leu Arg Thr Ser Ile Asp Ala Tyr Asp		
1475	1480	1485
Asn Phe Asp Asn Ile Ser Leu Ala Gln Arg Leu Glu Lys His Glu Leu		
1490	1495	1500
Ile Glu Phe Arg Arg Ile Ala Ala Tyr Leu Phe Lys Gly Asn Asn Arg		
1505	1510	1515
Trp Lys Gln Ser Val Glu Leu Cys Lys Lys Asp Ser Leu Tyr Lys Asp		
1525	1530	1535
Ala Met Gln Tyr Ala Ser Glu Ser Lys Asp Thr Glu Leu Ala Glu Glu		
1540	1545	1550
Leu Leu Gln Trp Phe Leu Gln Glu Glu Lys Arg Glu Cys Phe Gly Ala		
1555	1560	1565
Cys Leu Phe Thr Cys Tyr Asp Leu Leu Arg Pro Asp Val Val Leu Glu		
1570	1575	1580
Thr Ala Trp Arg His Asn Ile Met Asp Phe Ala Met Pro Tyr Phe Ile		
1585	1590	1595
Gln Val Met Lys Glu Tyr Leu Thr Lys Val Asp Lys Leu Asp Ala Ser		
1605	1610	1615
Glu Ser Leu Arg Lys Glu Glu Glu Gln Ala Thr Glu Thr Gln Pro Ile		
1620	1625	1630
Val Tyr Gly Gln Pro Gln Leu Met Leu Thr Ala Gly Pro Ser Val Ala		
1635	1640	1645
Val Pro Pro Gln Ala Pro Phe Gly Tyr Gly Tyr Thr Ala Pro Pro Tyr		
1650	1655	1660
Gly Gln Pro Gln Pro Gly Phe Gly Tyr Ser Met		
1665	1670	1675

<210> 7  
<211> 903  
<212> PRT  
<213> Homo sapiens

<400> 7	Met Ala Ile Gln Phe Arg Ser Leu Phe Pro Leu Ala Leu Pro Gly Met	15
1	5	10
Leu Ala Leu Leu Gly Trp Trp Trp Phe Phe Ser Arg Lys Lys Gly His		
20	25	30
Val Ser Ser His Asp Glu Gln Gln Val Glu Ala Gly Ala Val Gln Leu		
35	40	45
Arg Ala Asp Pro Ala Ile Lys Glu Pro Leu Pro Val Glu Asp Val Cys		
50	55	60
Pro Lys Val Val Ser Thr Pro Pro Ser Val Thr Glu Pro Pro Glu Lys		
65	70	75
80		
Glu Leu Ser Thr Val Ser Lys Leu Pro Ala Glu Pro Pro Ala Leu Leu		
85	90	95
Gln Thr His Pro Pro Cys Arg Arg Ser Glu Ser Ser Gly Ile Leu Pro		
100	105	110
Asn Thr Thr Asp Met Arg Leu Arg Pro Gly Thr Arg Arg Asp Asp Ser		

115	120	125
Thr Lys Leu Glu Leu Ala	Leu Thr Gly Gly	Glu Ala Lys Ser Ile Pro
130	135	140
Leu Glu Cys Pro Leu Ser Ser	Pro Lys Gly Val	Leu Phe Ser Ser Lys
145	150	155
Ser Ala Glu Val Cys Lys Gln Asp Ser	Pro Phe Ser Arg Val	Pro Arg
165	170	175
Lys Val Gln Pro Gly Tyr Pro Val Val	Pro Ala Glu Lys Arg	Ser Ser
180	185	190
Gly Glu Arg Ala Arg Glu Thr Gly	Gly Ala Glu Gly	Thr Gly Asp Ala
195	200	205
Val Leu Gly Glu Lys Val Leu Glu Glu Ala	Leu Ser Arg Glu His	
210	215	220
Val Leu Glu Leu Glu Asn Ser Lys Gly	Pro Ser Leu Ala Ser	Leu Glu
225	230	235
Gly Glu Glu Asp Lys Gly Lys Ser Ser	Ser Ser Gln Val Val	Gly Pro
245	250	255
Val Gln Glu Glu Glu Tyr Val Ala Glu Lys	Leu Pro Ser Arg Phe	Ile
260	265	270
Glu Ser Ala His Thr Glu Leu Ala Lys Asp	Asp Ala Ala Pro Ala	Pro
275	280	285
Pro Val Ala Asp Ala Lys Ala Gln Asp Arg	Gly Val Glu Gly	Glu Leu
290	295	300
Gly Asn Glu Glu Ser Leu Asp Arg Asn Glu	Glu Gly Leu Asp Arg	Asn
305	310	315
Glu Glu Gly Leu Asp Arg Asn Glu Glu	Ser Leu Asp Arg Asn	Glu Glu
325	330	335
Gly Leu Asp Arg Asn Glu Glu Ile Lys	Arg Ala Ala Phe Gln Ile	Ile
340	345	350
Ser Gln Val Ile Ser Glu Ala Thr Glu Gln	Val Leu Ala Thr Thr	Val
355	360	365
Gly Lys Val Ala Gly Arg Val Cys Gln Ala	Ser Gln Leu Gln Gly	Gln
370	375	380
Lys Glu Glu Ser Cys Val Pro Val His Gln	Lys Thr Val Leu Gly	Pro
385	390	395
Asp Thr Ala Glu Pro Ala Thr Ala Glu Ala	Ala Val Ala Pro Pro	Asp
405	410	415
Ala Gly Leu Pro Leu Pro Gly Leu Pro Ala	Glu Gly Ser Pro Pro	Pro
420	425	430
Lys Thr Tyr Val Ser Cys Leu Lys Ser	Leu Ser Ser Pro Thr	Lys
435	440	445
Asp Ser Lys Pro Asn Ile Ser Ala His His	Ile Ser Leu Ala Ser	Cys
450	455	460
Leu Ala Leu Thr Thr Pro Ser Glu Glu	Leu Pro Asp Arg Ala	Gly Ile
465	470	475
Leu Val Glu Asp Ala Thr Cys Val Thr	Cys Met Ser Asp Ser	Ser Gln
485	490	495
Ser Val Pro Leu Val Ala Ser Pro Gly	His Cys Ser Asp Ser	Phe Ser
500	505	510
Thr Ser Gly Leu Glu Asp Ser Cys	Thr Glu Thr Ser Ser	Pro Arg
515	520	525
Asp Lys Ala Ile Thr Pro Pro Leu Pro	Glu Ser Thr Val Pro	Phe Ser
530	535	540
Asn Gly Val Leu Lys Gly Glu Leu Ser Asp	Leu Gly Ala Glu Asp	Gly
545	550	555
Trp Thr Met Asp Ala Glu Ala Asp His	Ser Gly Gly Ser Asp	Arg Asn
565	570	575

Ser Met Asp Ser Val Asp Ser Cys Cys Ser Leu Lys Lys Thr Glu Ser  
       580                   585                   590  
 Phe Gln Asn Ala Gln Ala Gly Ser Asn Pro Lys Lys Val Asp Leu Ile  
       595                   600                   605  
 Ile Trp Glu Ile Glu Val Pro Lys His Leu Val Gly Arg Leu Ile Gly  
       610                   615                   620  
 Lys Gln Gly Arg Tyr Val Ser Phe Leu Lys Gln Thr Ser Gly Ala Lys  
       625                   630                   635                   640  
 Ile Tyr Ile Ser Thr Leu Pro Tyr Thr Gln Ser Val Gln Ile Cys His  
       645                   650                   655  
 Ile Glu Gly Ser Gln His His Val Asp Lys Ala Leu Asn Leu Ile Gly  
       660                   665                   670  
 Lys Lys Phe Lys Glu Leu Asn Leu Thr Asn Ile Tyr Ala Pro Pro Leu  
       675                   680                   685  
 Pro Ser Leu Ala Leu Pro Ser Leu Pro Met Thr Ser Trp Leu Met Leu  
       690                   695                   700  
 Pro Asp Gly Ile Thr Val Glu Val Ile Val Val Asn Gln Val Asn Ala  
       705                   710                   715                   720  
 Gly His Leu Phe Val Gln Gln His Thr His Pro Thr Phe His Ala Leu  
       725                   730                   735  
 Arg Ser Leu Asp Gln Gln Met Tyr Leu Cys Tyr Ser Gln Pro Gly Ile  
       740                   745                   750  
 Pro Thr Leu Pro Thr Pro Val Glu Ile Thr Val Ile Cys Ala Ala Pro  
       755                   760                   765  
 Gly Ala Asp Gly Ala Trp Trp Arg Ala Gln Val Val Ala Ser Tyr Glu  
       770                   775                   780  
 Glu Thr Asn Glu Val Glu Ile Arg Tyr Val Asp Tyr Gly Gly Tyr Lys  
       785                   790                   795                   800  
 Arg Val Lys Val Asp Val Leu Arg Gln Ile Arg Ser Asp Phe Val Thr  
       805                   810                   815  
 Leu Pro Phe Gln Gly Ala Glu Val Leu Leu Asp Ser Val Met Pro Leu  
       820                   825                   830  
 Ser Asp Asp Asp Gln Phe Ser Pro Glu Ala Asp Ala Ala Met Ser Glu  
       835                   840                   845  
 Met Thr Gly Asn Thr Ala Leu Leu Ala Gln Val Thr Ser Tyr Ser Pro  
       850                   855                   860  
 Thr Gly Leu Pro Leu Ile Gln Leu Trp Ser Val Val Gly Asp Glu Val  
       865                   870                   875                   880  
 Val Leu Ile Asn Arg Ser Leu Val Glu Arg Gly Leu Ala Gln Trp Val  
       885                   890                   895  
 Asp Ser Tyr Tyr Thr Ser Leu  
       900

<210> 8  
 <211> 197  
 <212> PRT  
 <213> Homo sapiens

<400> 8  
 Met Met Phe Pro Gln Ser Arg His Ser Gly Ser Ser His Leu Pro Gln  
       1                   5                   10                   15  
 Gln Leu Lys Phe Thr Thr Ser Asp Ser Cys Asp Arg Ile Thr Asp Glu  
       20                   25                   30  
 Phe Gln Leu Leu Gln Ala Gln Tyr His Ser Leu Lys Leu Glu Cys Asp  
       35                   40                   45  
 Lys Leu Ala Ser Glu Lys Ser Glu Met Gln Arg His Tyr Val Met Tyr  
       50                   55                   60

Tyr Glu Met Ser Tyr Gly Leu Asn Ile Glu Met His Lys Gln Ala Glu  
 65 70 75 80  
 Ile Val Lys Arg Leu Asn Gly Ile Cys Ala Gln Val Leu Pro Tyr Leu  
 85 90 95  
 Ser Gln Glu His Gln Gln Gln Val Leu Gly Ala Ile Glu Arg Ala Lys  
 100 105 110  
 Gln Val Thr Ala Pro Glu Leu Asn Ser Ile Ile Arg Gln Gln Leu Gln  
 115 120 125  
 Ala His Gln Leu Ser Gln Leu Gln Ala Leu Ala Leu Pro Leu Thr Pro  
 130 135 140  
 Leu Pro Val Gly Leu Gln Pro Pro Ser Leu Pro Ala Val Ser Ala Gly  
 145 150 155 160  
 Thr Gly Leu Leu Ser Leu Ser Ala Leu Gly Ser Gln Ala His Leu Ser  
 165 170 175  
 Lys Glu Asp Lys Asn Gly His Asp Gly Asp Thr His Gln Glu Asp Asp  
 180 185 190  
 Gly Glu Lys Ser Asp  
 195

<210> 9  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 9  
 cgccggatccc catgcaggcg cgctactccg tgt 33

<210> 10  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 10  
 cgcggatcct cagtatttcg tgcagtcgta gga 33

<210> 11  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> PCR primer

<400> 11  
 taatacgact cactataggg 20

<210> 12  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
<223> PCR primer

<400> 12  
aggcgctgaa tgtaagcgt